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ABSTRACT

Results of three studies conducted at Clayton Junior College, Georgia, concerning differences between traditional and nontraditional age students relative to academic success and persistence are discussed. In the first two studies discriminant analyses were used to determine the influence of age in relation to other entering characteristics on persistence and academic success. Age was found to be negatively related to persistence for students in the regular academic program and positively related for those in a developmental program. The results of the third study, in which discriminant analysis was used, indicated that older (age 25 and older) students differed from their younger (age 17 to 19) counterparts in relation to entering goals, levels of goal commitment, and expectations for college experience. The older students who entered the regular academic program in the fall of 1976 were more successful academically than their younger counterparts: however, the attrition rate of the older students was higher. Older students seemed to be more certain of their goals than the traditional age students. The older students had a more positive image of the college and seemed to view the college primarily as a place to take courses rather than for social life. The possibility that there are different program and service needs of students based on age is noted. (SW)

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PERSISTENCE AND ACADEMIC SUCCESS AMONG NON-TRADITIONAL AGE STUDENTS AT A JUNIOR COLLEGE

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Mary Corcoran
University of Minnesota
(Editor, AIR Forum Publications)

PERSISTENCE AND ACADEMIC SUCCESS AMONG NON-TRADITIONAL AGE STUDENTS AT A JUNIOR COLLEGE

Abstract

This paper reports the results of three studies of differences between traditional and non-traditional age students. In the first two studies discriminant analyses were used to determine the influence of age, relative to other entering characteristics on persistence and academic success. Age was found to be negatively related to persistence for students in the regular academic program and positively related, for those in the developmental program. The results of the third study, in which discriminant analysis was used, indicated that older students differed from their younger counterparts in relation to entering goals, levels of goal commitment, and expectations for college experiences.

Persistence and Academic Success Among
Non-Traditional Age Students at a Junior College

The concern of college administrators with declining enrollments and the prospects of a continued shrinking of the pool of traditional age potential college students has resulted in increased attention to two goals: (1) retaining a higher percentage of students who enroll, and (2) attracting a larger number of older students. A growing number of students 25 years of age and older are enrolling in postsecondary institutions and in 1978 represented over one-third of the college population. Over 50 percent of the 1970 to 1977 enrollment increase in two-year colleges was comprised of older students (Miller, 1980). Is the trend toward an older student population incompatible with the goal of improved retention?

Evidence concerning the relationship between age and attrition is inconclusive. In their review of the attrition literature Pantages and Creedon (1978) concluded that age is not a primary factor in causing attrition. The results of other studies, however, indicate that older students are more likely to drop out than traditional age students (Newman, 1967, Astin, 1975).

Older students are more likely to exhibit certain characteristics which seem to increase the likelihood of leaving college. A student's high school record is the best predictor of college success and persistence (Pantages and Creedon, 1978; Astin, 1975), and older students generally have lower high school averages than their younger counterparts (Ryan, 1969). Whether the difference is due to ability and past motivation or grade inflation has not been determined. Another characteristic associated with dropping out of school is working on a full-time basis (Astin, 1975). Because of financial obligations, older students are likely to work more hours per week than

traditional age students (Kuh and Ardaiolo, 1979) and to attend college on a part-time basis (Miller, 1980).

Most of the studies supporting high school average and work as predictors of persistence involved a very small number of older students. In addition, because these factors cannot be changed, the findings are not particularly valuable to college administrators and faculty as they attempt to serve and retain increasing numbers of non-traditional age students. Much more promising is the research related to factors which may, to some extent, be controllable.

It is becoming increasingly evident that retention is an extremely complex phenomenon, involving complicated interrelationships among a student's entering characteristics, goals and expectations, the nature of a campus and what a particular individual experiences there (Tinto, 1975, Spady, 1970, Rootman, 1972). The theoretical model which seems to be the most complete and to provide the best framework for research is the one developed by Tinto (1975). According to Tinto, a student enters an institution with given background characteristics, goals, and levels of commitment to his goals and to the institution. The extent to which the interaction between the student's characteristics and his college experiences causes him to become integrated into the academic and social systems of the college determines new levels of institutional and goal commitment and, thus, whether he persists or leaves the college. It is important to note that the two systems--academic and social--are separate and that a person may become integrated into one and not the other. Tinto, therefore, distinguishes between different forms of dropout behavior: voluntary withdrawal of the academically successful student and dismissal of the unsuccessful student. He hypothesizes that integration into the academic system primarily affects goal commitment, whereas the level

of integration into the social system is more likely to affect institutional commitment. Expanding upon this concept, he points out that a person who leaves a college voluntarily generally has better grades and a higher level of intellectual development than the average persister.

The importance of entering educational goals, levels of commitment, and expectations in relation to persistence in college has been supported empirically, although most of the studies have not been specifically based on Tinto's model. Few investigations, however, have addressed these dimensions in relation to older students. Traditionally, older students have been assumed to be highly motivated and goal directed. For example, they are more likely to enter college with specific job-related goals than are younger students (Mathews, 1976; Kuh and Ardaiolo, 1979). Kuh and Ardaiolo also found, however, that older students are likely to have lower degree expectations.

The major research based specifically on Tinto's theory and indicating a positive relationship between social and academic integration and persistence (Terenzini and Pascarella, 1977), seemed to involve primarily younger students at residential institutions. Whether or not the model is applicable to non-traditional age students, particularly at commuter institutions, is unknown.

The purposes of the investigations reported here were

(1) to determine the relative influence of selected student characteristics, one of which was age, on persistence and academic success; and

(2) to examine differences between non-traditional age (25 and older) and traditional age (17 to 19) entering students in relation to selected aspects of educational goals, levels

of goal and institutional commitment, and expectations for experiences at the college.

The studies were conducted at Clayton Junior College, a unit of the University System of Georgia. Located in a suburban setting in Metropolitan Atlanta, the non-residential college has an enrollment of around 3,000 students. Approximately 30 percent of the students are 25 years and older.

The Influence of Age on Persistence and Academic Success of Entering Freshmen

Two studies, similar in nature, were conducted to determine the influence of age, relative to other characteristics, on the persistence and academic success of freshmen entering the college during the Fall of 1976. Based on Scholastic Aptitude Test (SAT) scores, high school average, and placement test scores, entering freshmen are placed into either the regular academic program or a developmental program. A separate study was conducted for each of these two groups.

METHODOLOGY

Samples

A major problem in retention studies, particularly at two-year commuter institutions is the definition and identification of persisters and leavers. For purposes of the study of students in the regular academic program, three levels of persistence were used: leaver, stayer, and graduate, with the basis for classification being attendance patterns between Fall 1976 and Spring 1979. Leavers and stayers were both divided into two subgroups, based on academic average as of the last quarter of attendance. Of the 567 freshmen beginning in the Fall of 1976, 441 were assigned to a category. Slightly less than 20 percent (126) of the freshmen could not be classified with any degree of

certainty and, therefore, were excluded from the analysis. The five categories used in the analysis, along with the criteria for inclusion, are shown in Table 1.

Based on attendance patterns between Fall 1976 and Spring 1976, 177 of the 258 students who entered the developmental program in the Fall of 1976 were classified into one of three categories. The 81 remaining students were excluded because their attendance categories were determined to be uncertain. The first category consisted of leavers who attempted no coursework beyond developmental courses. In the second category were leavers who attempted some work beyond developmental courses; in the third group, students who persisted in the regular academic program.

Analysis

In both studies discriminant analyses were performed to determine (1) whether the groups representing levels of persistence/academic success were truly distinct groups in relation to the characteristics used in the analyses, and (2) the relative contribution of each of the characteristics to discriminating among the groups. Characteristics examined, in addition to age, were scores on the verbal and math portions of the SAT, high school average, sex and marital status, whether attendance during the first quarter was on a full-time or part-time basis, time of attendance (day or night), whether a major had been declared, and academic status at the end of the first quarter of enrollment.[1] In order to provide additional evidence relative to the accuracy of this procedure, classification analyses using the individual group covariance matrices and individual discriminant scores were done. For cross-validation

[1]Academic status was not included in the analysis of students in the developmental program.

Table 1. Criteria for Assignment of Regular Students to Persistence/Academic Success Levels; Means and Standard Deviations for Age by Level

Category	Criteria	Age	
		Mean	S.D.
Unsuccessful Leavers (n = 138)	GPA = 0 - 1.9 Last quarter attended = Summer 1977 or before	19.8	3.7
Unsuccessful Stayers (n = 41)	GPA = 0 - 1.9 Attended 5 or more quarters, including Fall 1978 or Winter 1979 OR earned 75 or more hours	19.2	4.5
Successful Leavers (n = 92)	GPA = 2.0 - 4.0 Last quarter attended = Summer 1977 or before	22.5	7.0
Successful Stayers (n = 76)	GPA = 2.0 - 4.0 Attended 5 or more quarters, including Fall 1978 or Winter 1979 OR earned 75 or more hours	22.0	6.1
Graduates (n = 77)	Graduated	19.2	5.5

purposes, included in the classification phase of both analyses were students who began during the Fall of 1977. Subprogram discriminant from the Statistical Package for the Social Sciences (Nie, Hull, Jenkins, Steinbrenner, and Bent, 1975) was used for the computer analysis.

RESULTS

Students in the Regular Academic Program

In the five group discriminant analysis, each of the groups representing level of persistence/academic success was found to be statistically different from every other group on eight variables combined ($p < .000$). Age contributed significantly to overall group differences, both independently and relative to other characteristics (univariate $F = 6.18$, $p < .0001$; entered equation at step 4 of 8, Wilks' lambda = .53, $p < .000$). Three functions were derived, with the first and strongest representing high school and first quarter academic performance ($X^2 = 120.97$, df = 27, $p < .0000$). It served mainly to differentiate between academically successful and unsuccessful groups. Age contributed moderately to the function, below high school average, first quarter academic status, and part-time/full-time status. The second function was primarily a part-time/full-time and time of attendance dimension ($X^2 = 56.067$, df = 27, $p < .0000$); and the third was composed mainly of sex/marital status and SAT Verbal score ($X^2 = 56.07$, df = 16, $p < .0000$). Age contributed moderately to both the second and third functions.

As can be seen in Table 1, older students who left the college were more likely to do so with satisfactory academic records than the younger students. Successful leavers had the highest mean age, with independent t-tests yielding significant differences between this group and each of the other four groups ($p < .002$). Supplementary post hoc analyses conducted to examine

differences between 17 to 19 year old students and those 25 years of age and older relative to academic variables yielded mixed results. The mean college average for the older students was significantly higher than that of the younger group ($F = 4.52$, $df = 1$ and 531, $p < .03$).

Students in the Developmental Program

The results of the three-group discriminant analysis, in which one significant function was derived, indicated age to be significantly related to persistence, both independently and relative to other characteristics (univariate $F = p < .000$; entered equation at step 3 of 7; Wilks lambda = .73, $p < .0000$). Age contributed moderately to the discriminant function, below part-time/full-time status, time of attendance, and SAT Math score. As can be seen in Table 2, however, the influence of age was in the opposite direction from that found for students in the regular academic program. i.e., older developmental students were more likely to persist. Independent t-tests yielded significant differences in mean age between students who persisted in the regular academic program and both groups of leavers ($p < .000$).

Differences Between Traditional and Non-Traditional Age Students Relative to Entering Goals, Institutional and Goal Commitment and Expectations for College Experience

METHODOLOGY

Sample

Included in this study were 393 17 to 19 year old students and 148 students 25 years of age and older, all of whom entered the regular academic program during the Fall of 1979. These samples represented over 85 percent of their respective groups.

Table 2. Criteria for Assignment of Developmental Students to Persistence Levels; Means and Standard Deviations for Age by Level

Category	Criteria	Age Mean	Age S.D.
Leaver - attempted no hours beyond developmental courses (n = 77)	Regular hours attempted = 0 Last quarter attempted = Summer 1977 or before	20.9	5.0
Leaver - attempted some hours beyond developmental courses (n = 55)	Regular hours attempted = 5 or higher Last quarter attended = Summer 1977 or before	20.7	4.8
Persisters (n = 45)	Regular hours attempted = 15 or higher; last quarter attended = Fall 78 or later; OR Graduated or earned 75 or more regular hours.	23.2	9.0

Instrument

An Entering Student Questionnaire (ESQ) was designed to operationalize the concepts of educational goals, levels of goal and institutional commitment, and expectations for experiences at the college. The questionnaire was administered to all entering students during the New Student Orientation held prior to the beginning of Fall Quarter, 1979.

Analysis

Sixty items from the ESQ (for 541 subjects) were included in a factor analysis, the first step of which was a principal factor analysis with iteration. To maximize the interpretability of the factors, the 16 factors resulting were subjected to varimax rotation. Based on an examination of the resulting factor structures, four of the factors were chosen as representing meaningful dimensions related to goals, institutional and goal commitment, and expectations regarding experiences at the college. In general, factor scores for each subject were calculated by summing the raw scores on variables with factor loadings above .40, with variables loading above .40 on two dimensions being included in the factor on which it had the higher loading.

In order to determine (1) the ability of the factors to discriminate, both separately and in combination, and (2) the relative contribution of each factor to age group differences, a stepwise discriminant analysis was performed. Since 78 percent of the students over 25 years of age included in the sample were attending on a part-time basis (compared to only 26 percent of the 17 to 19 year old age group), it was important to separate out the influence of attendance pattern on group differences. Variables were therefore entered into the discriminant analysis by levels, with attendance pattern (part-time or full-time) being entered first, and the 14 ESQ dimensions being entered at the second level in a step-wise manner. To

further test the strength of the dependent variable a classification analysis using the individual group co-variance matrices and individual discriminant scores was done.

Computer programs used in the analyses were subprogram discriminant and subprogram factor from the Statistical Package for the Social Sciences (Nie et al, 1975).

RESULTS

Factor analysis of the subjects' responses to 60 ESQ items yielded 14 factors with eigenvalues greater than 1.0. For purposes of further analysis, each factor was assigned a name based on what appeared to be the conceptual dimension represented. No claim is made, however, for the construct validity of the scales relative to these concepts. No attempt was made to group the resulting factors into the larger dimensions of educational goals, institutional and goal commitment, and expectations. Because several factors could each have logically represented more than one larger dimension, such groupings would have been arbitrary and, therefore, meaningless.

Nine of the ESQ dimensions combined, along with part-time/full-time status, were found to differentiate between the age groups, with the variables yielding a multivariate F of 47.43 ($df = 10$ and 530, $p < .0000$). The means, standard deviations, and univariate F ratios for each of the nine ESQ variables are shown in Table 3.

The function resulting from the discriminant analysis yielded a X^2 value of 341.32 ($df = 10$, $p < .000$) and a canonical correlation with age group membership of .687 (Table 4). Variables contributing most to group separation were expectations for missing classes and/or dropping out of school, expectations for campus social life, part-time/full-time status, and image of the college. As can be seen in Table 3, older students were more likely

Table 3. Means, Standard Deviations, and Univariate F Ratios by Age Group for Nine Dependent Variables (ESQ Dimensions)

Variable	Range of possible scores [a]	17-19 age group (n = 393) Mean	17-19 age group (n = 393) S.D.	25 + age group (n = 148) Mean	25 + age group (n = 148) S.D.	Univariate F ratio [b]
Liberal education objectives	3-15	5.9	2.3	6.9	2.9	17.95*
Likelihood of changing major/career	2-10	6.6	2.9	7.5	2.1	17.35*
Expectations for missing classes/drop-out	5-25	21.5	2.6	18.7	3.4	90.70*
Family desires as reason for college attendence	3-15	10.2	3.0	12.8	2.9	82.45*
Recommendations/academic quality as reasons for choosing CJC	5-25	14.5	3.2	16.3	3.5	30.06*
Image of CJC (courses, instructors, students, enthusiasm)	7-35	12.6	3.3	11.8	3.1	6.14***
Expectations for campus social life	4-20	9.2	2.6	12.4	2.9	153.6 *
Expectations for remaining at CJC	2-10	5.6	1.3	5.5	1.6	0.61
Satisfaction with high school performance	2-10	5.5	2.3	6.3	2.4	12.12**
Multivariate F = 47.43, with 10 and 530 degrees of freedom (p <.0000)						

[a] Lower scores indicated more positive response to dimension as stated.
[b] Univariate degrees of freedom = 1 and 539

* p <.0000
** p <.0005
*** p <.0135

Table 3. Means, Standard Deviations, and Univariate F Ratios by Age Group for Nine Dependent Variables (ESQ Dimensions)

Variable	Range of possible scores [a]	17-19 age group (n = 393) Mean	S.D.	25 + age group (n = 148) Mean	S.D.	Univariate F ratio [b]
Liberal education objectives	3-15	5.9	2.3	6.9	2.9	17.95*
Likelihood of changing major/career	2-10	6.6	2.9	7.5	2.1	17.35*
Expectations for missing classes/drop-out	5-25	21.5	2.6	18.7	3.4	90.70*
Family desires as reason for college attendence	3-15	10.2	3.0	12.8	2.9	82.45*
Recommendations/academic quality as reasons for choosing CJC	5-25	14.5	3.2	16.3	3.5	30.06*
Image of CJC (courses, instructors, students, enthusiasm)	7-35	12.6	3.3	11.8	3.1	6.14***
Expectations for campus social life	4-20	9.2	2.6	12.4	2.9	153.6 *
Expectations for remaining at CJC	2-10	5.6	1.3	5.5	1.6	0.61
Satisfaction with high school performance	2-10	5.5	2.3	6.3	2.4	12.12**

Multivariate F = 47.43, with 10 and 530 degrees of freedom ($p < .0000$)

[a] Lower scores indicated more positive response to dimension as stated.
[b] Univariate degrees of freedom = 1 and 539

* $p < .0000$
** $p < .0005$
*** $p < .0135$

Table 4. Stepwise Discriminant Analysis Results for ESQ Dimensions

Step	Variable	Wilks' Lambda	Standardized Discriminant Weight
1	Part-time/full-time status	.77*	.44
2	Expectations for campus social life	.66*	-.47
3	Expectations for missing classes/dropping out	.62*	.53
4	Image of CJC	.58*	.42
5	Family desires as reason for college attendance	.57*	-.24
6	Recommendations/academic quality as reasons for choosing CJC	.56*	-.27
7	Likelihood of changing major/career	.55*	-.26
8	Satisfaction with high school performance	.54*	-.18
9	Liberal education objectives	.53*	.21
10	Expectations for remaining at CJC	.53*	.15

(Discriminant function $X^2(10) = 341.32$, $p < .000$. Canonical r = .687)

*$p < .0000$

to expect to miss classes or drop out of college, had lower expectations for participation in campus social life, but had a somewhat more positive image of the college.

Evidence obtained from classifying the same subjects included in the discriminant analysis was positive. The overall classification accuracy rate was 87 percent, with 92 percent of the older students and 73 percent of the younger group classified correctly.

CONCLUSIONS AND DISCUSSION

The older students who entered the regular academic program in the Fall of 1976 were more successful academically than their younger counterparts. In spite of this difference, their attrition rate was higher (53 percent vs. 34 percent). In other words, the majority of older students who left the college did so with successful academic records, whereas most of the younger leavers were unsuccessful. Age was found to have a significant negative relationship to persistence, even beyond the influence of other detrimental factors such as a low high school average and attending school on a part-time basis.

Based on Tinto's model, the older students would be expected either to have been different from the younger students in regard to entering goals and commitment to those goals and the institution, or to have achieved a lower degree of integration into the campus social system. Since it was impossible to study these dimensions for the 1976 entering students, differences in goals, levels of commitment, and expectations for college experiences between the older and traditional age students who entered the college in the Fall of 1979 were investigated. The age groups were distinctly separate groups relative to nine variables representing various aspects of these dimensions.

Goals

The educational goals of the older students were not as different as might have been expected based on previous research. Although not included in the multivariate analyses, data relative to the highest intended degree were available for both age groups. The difference in degree aspirations was not significant, a finding that was inconsistent with the results of the Kuh and Ardaiolo study (1979).

Older students seemed to be more certain of their goals than the traditional age students, with the dimension including items related to the likelihood of changing one's major or career contributing moderately to group differences. Substantiating this difference was the fact that a significantly higher proportion of younger students had not declared a major ($X^2 = 30.28$, df = 2, $p < .0000$).

Based on the findings of Kuh and Ardaiolo (1979) and Mathews (1975), as well as the fact that more of the older students worked at full-time jobs ($X^2 = 113.69$, df = 4, $p < .0000$), it was expected that the non-traditional age subjects' educational goals would be more job oriented. The findings, however, appeared to be somewhat contradictory. Although older students were less interested in traditional liberal arts type goals, e.g., getting a general education and learning more about themselves, this factor contributed only slightly to differentiating between the groups. Neither the degree of importance attached to economic motives for attending college nor the perceived relationship between coursework and present job, however, was found to contribute to separation of the groups.

Evidence related to the level of commitment to educational goals was also inconclusive. The older students perceived a much higher probability that they would have to miss classes because of job and/or family

responsibilities. This dimension received the heaviest weight in the discriminant function and, it would seem, may logically be viewed as an indication of commitment. On the other hand, the older students appeared to be more self-motivated, viewing family desires as a reason for attending college as less important than the traditional age subjects.

Image of the College/Institutional Commitment

The dimension representing image of the college was relatively important to separation of the age groups, with the older students having a more positive image. Included in the factor were items related to the extent to which students expected the quality of the faculty, students, and courses to be comparable to that at a four-year college or university. Additional items related to the degree of enthusiasm for attending the college and expectations for satisfaction. Although the factor represented expectations for experiences at the college, it seems logical to assume that perceived quality would be related to institutional commitment. The validity of the assumption would appear to be supported by the fact that the older students had more positive scores on the factor representing academic quality/good program in field of interest as a reason for choosing the college and expectations for remaining long enough to earn an associate degree.

Expectations for Campus Social Life

The factor representing expectations for campus social life ranked second in degree of contribution to the discriminant function. The older students seemed to view the college primarily as a place to take courses, and attached little importance to such things as meeting new people, making friends, and participating in campus activities.

Implications

These studies dealt only with the opposite ends of the process described in Tinto's model: the outcome, i.e., persistence or dropping out, and entering characteristics. An additional problem was that the investigation related to outcome was conducted with one group of students; the study of entering characteristics, with a later group. Finally, the results are based on students at a single institution and may not be generalizable to other settings.

Because of their lower high school averages and a longer period of time away from formal education, the older 1976 students should have been less successful academically than their younger counterparts. Assuming that the 1976 and 1979 entering groups were similar, that the older subjects were instead more successful may be due in part to greater certainty about their educational and career goals and a higher level of self-motivation relative to the decision to attend college. In addition, the older students may have entered with a more positive image of the college and expecting to stay longer than did the younger students.

At some point, however, something apparently went wrong. What, of course, is impossible to determine from the data available at this time. The results, however, suggest some interesting questions for further research.

According to Tinto's theory, and supported by Terenzini and Pascarella (1977), integration into both the academic and social systems of the college is important. Of the students who achieved academic integration, a higher proportion of the older subjects left the college. No data were available relative to social integration. The 1979 older students, however, indicated a much lower level of interest in various components of social integration. Does lack of interest eliminate the dimension as an important variable

relative to persistence? Rather than the absence of social integration causing voluntary withdrawal among successful older students, could a lower level of commitment to education (as suggested by the higher expectations for missing classes and dropping out of school) be the major problem? Or could the older successful students who leave be committed to their goals, but transferring to another institution?

Evidence related to these questions will have to await the results of longitudinal studies of the 1979 students. The results reported here, however, seem to suggest at least one general implication for decision makers at commuter institutions which serve both traditional age and older students. Since the two age groups studied appeared to represent distinctly different subpopulations, each with unique characteristics and, possibly, reactions to college experiences, it is likely that each group has special program and service needs. Options for meeting these needs, and therefore increasing the likelihood that older students will persist at an institution, should be explored.

REFERENCES

Astin, A. W. Preventing students from dropping out. San Francisco: Jossey-Bass, 1975.

Kuh, G. D. and Ardaiolo, F. P. Adult learners and traditional age freshmen: comparing the "new" pool with the "old" pool of students. Research in higher education, 1979, 10:207-219.

Mathews, M. E. Educational goals orientation related to selected status characteristics of adult students at Wichita State University. Unpublished doctoral dissertation, 1976.

Miller, R. H. A decade of data on adult learners. The college board review, 1980, 114: 16-17.

Newman, M. A. The student and the college community: a study of attrition on persistence in a highly selective liberal arts college. Cooperative research project No. S-130. Chicago: University of Chicago, 1965.

Nie, H.; Hull, C. H.; Jenkins, J. G.; Steinbrenner, K.; and Bent, D. H. Statistical package for the social sciences, 2nd ed. New York: McGraw-Hill, 1975.

Pantages, T. J. and Creedon, C. F. Studies of college attrition: 1950-1975. Review of educational research, 1978, 48:49-101.

Rootman, J. Voluntary withdrawal from a total adult socialization organization: a model. Sociology of education, 1972, 45:258-270.

Ryan, J. D., Jr. A comparison of the academic achievement of adults and college-age junior college full-time day students. Unpublished doctoral dissertation. Wayne State University, 1969.

Spady, W. Dropouts from higher education: an interdisciplinary review and synthesis. Interchange, 1970, 1:64-85.

Terenzini, P. T. and Pascarella, E. T. Voluntary freshman attrition and patterns of social and academic integration in a university: a test of a conceptual model. Research in higher education, 1977, 6:25-43.

Tinto, V. Dropout from higher education: a theoretical synthesis of recent research. Review of educational research, 1975, 45:89-125.